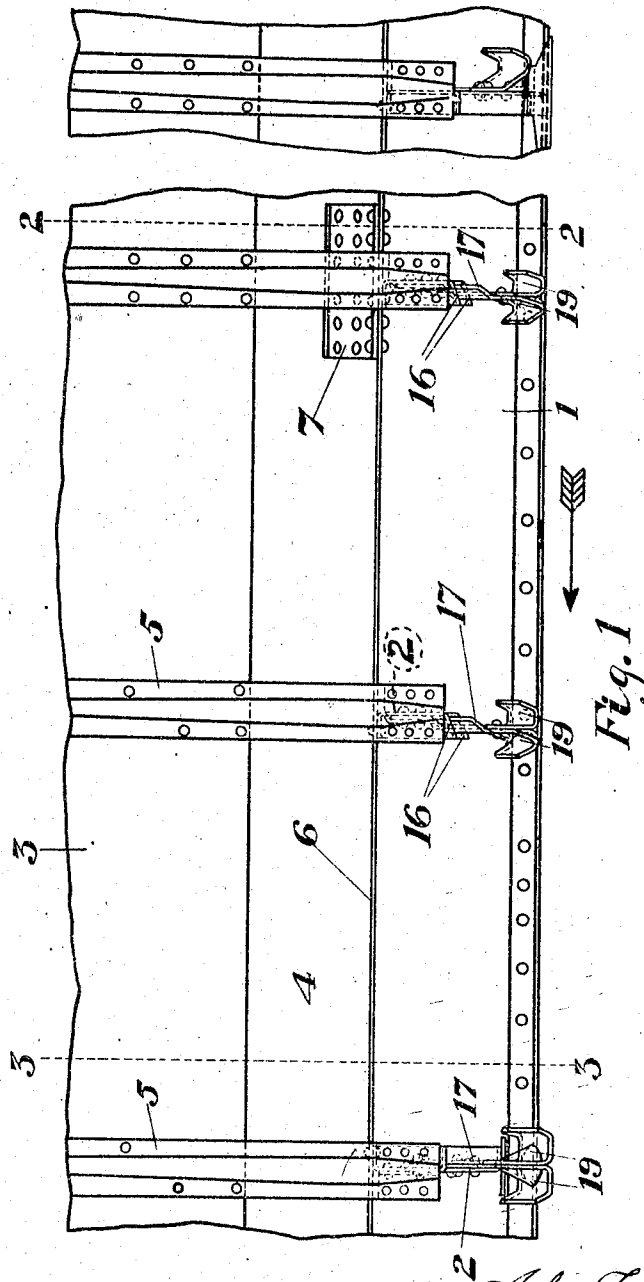


J. F. STREIB.
CAR CONSTRUCTION.
APPLICATION FILED JAN. 31, 1908.

942,224.

Patented Dec. 7, 1909.
3 SHEETS—SHEET 1.



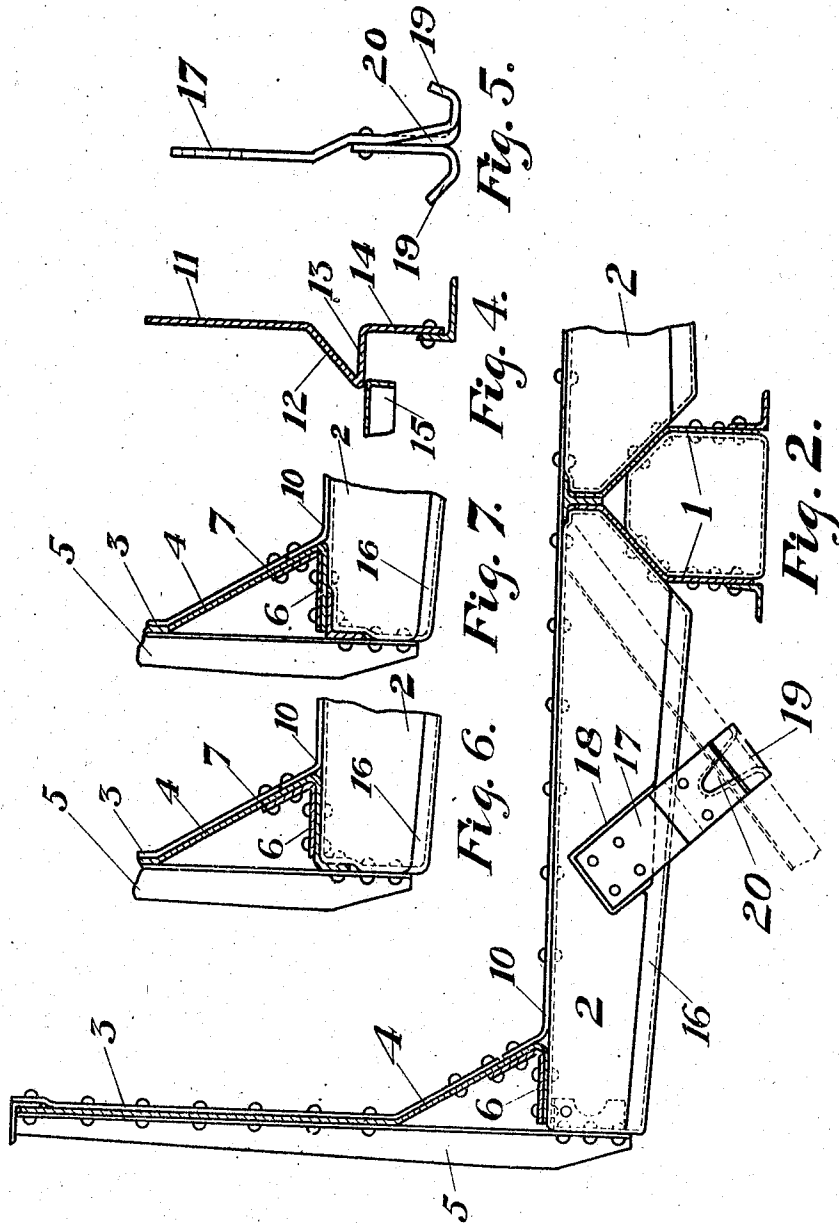
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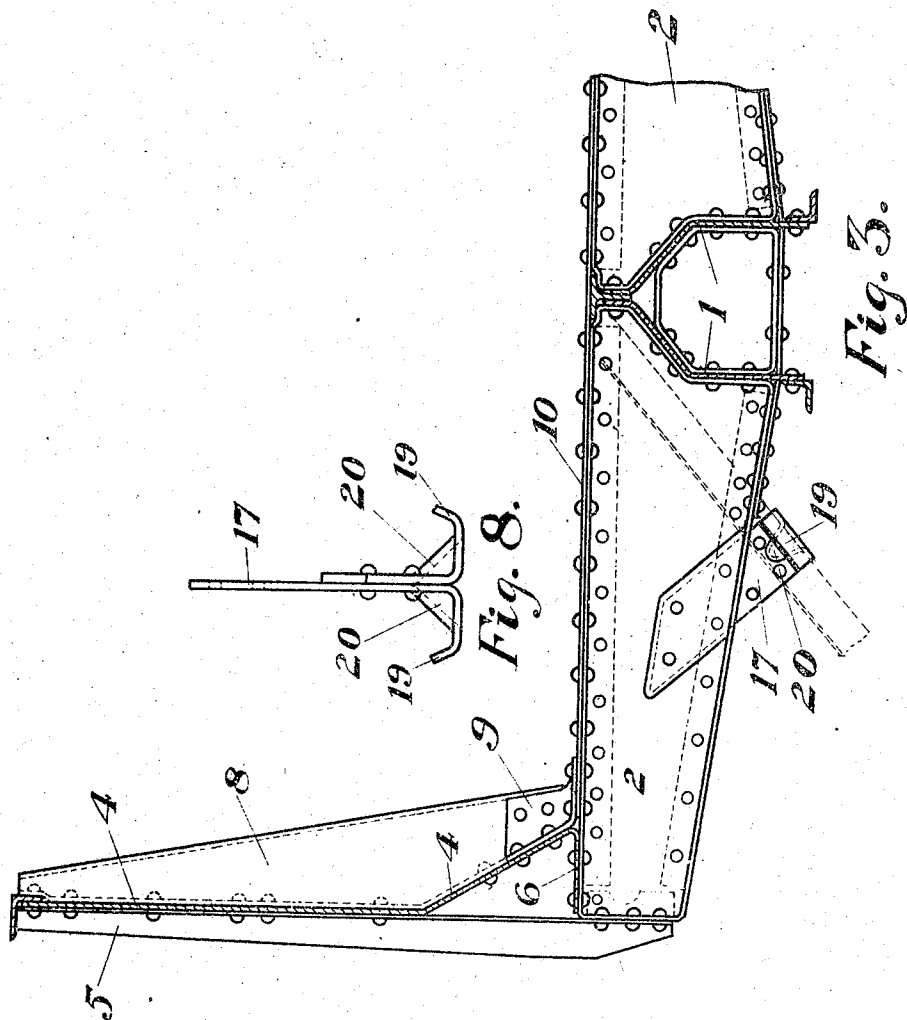
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UNITED STATES PATENT OFFICE.

JOHN F. STREIB, OF AVALON, PENNSYLVANIA, ASSIGNOR TO PRESSED STEEL CAR COMPANY, OF PITTSBURG, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

CAR CONSTRUCTION.

942,224.

Specification of Letters Patent.

Patented Dec. 7, 1909.

Application filed January 31, 1908. Serial No. 413,666.

To all whom it may concern:

Be it known that I, JOHN F. STREIB, of Avalon, Allegheny county, Pennsylvania, a citizen of the United States, have invented certain new and useful Improvements in Car Construction, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which like characters refer to like parts, and in which—

Figure 1 is a side elevation of portions of a car body embodying the features of said invention, Fig. 2 is a transverse sectional elevation in direction of arrow on line 2—2 of Fig. 1, Fig. 3 is a like view on line 3—3 of Fig. 1, Fig. 4 is a detail view showing end sheet of car made in accordance with my invention, Fig. 5 is a detail edge view illustrating a pair of door stops, Figs. 6 and 7 are detail transverse sections showing slight modifications of construction of car side, and Fig. 8 shows a slight modification of the door stops shown in Fig. 5.

An object of the present invention is to provide a simple, strong and economical construction of car side or end especially adapted for that class of freight cars having drop bottoms and known as general service gondolas, but which might also be applied to gondola cars or other freight cars without drop bottoms.

Another object of the present invention is to provide an improved form of cross-bearer especially adaptable to dumping cars as it is so constructed as to make it impossible for the lading to accumulate or collect on its lower flanges when the car is dumped.

Another object of the present invention is to provide improved stops for drop doors in dump cars.

A further object of the present invention is to provide certain modifications of the hereinbefore described structures.

Referring now in detail to the drawings, 1 represents the center sill of a car, 2 a cross-bearer and 3 is the plate-girder car side bent inwardly at a point above the upper surface of cross-bearer 2 to form shedding inclines 4. The car side 3 is also bent at a point intermediate the ends of the cross-bearer 2 outwardly toward the side stakes 5 forming a longitudinal edge plate 6 suitably riveted or secured to the ends of the several cross-bearers. The stakes 5 preferably extend

down below the edge plates or horizontal portions 6 of the side sheets 3, or upper surface of cross-bearers 2, where they are secured to the end of the cross-bearer 2. Car sides 3 and shedding inclines 4 may be further braced in any suitable manner by supplemental braces, such as by angle plates 7 beneath said shedding surface, incline or by vertical inner stakes 8 inside of the car and shaped correspondingly to the car side, both of suitable number and location. Inclines 4 may also be further braced by flanged plates 9 of suitable shape secured to incline 4 and upper edge or surface of cross-bearers 2 secured thereto and which connect inclines 4 with stakes 8 or by the tie or floor plate 10. In case the car is a dumping car, in which the bottom is comprised wholly of drop doors, 10 would represent a tie plate, tying a pair of cross-bearers 2 together, whereas in case of the car being a non-dumping car, 10 would represent a floor plate. As shown in Fig. 2, plate or strip 10 extends up inclines 4 and is secured thereto and helps thus to tie cross-bearer 2 and side 3 together and to brace side 3 and forms a guard against accumulation of lading between strip or edge plate 6 and cross-bearer 2. It is not absolutely essential, however, that plate or strip 10 extend up incline 4. In this manner is formed of the plate-girder sides, stakes and cross-bearers and braces a very strong car side construction comprising sides, shedding inclines and edge stiffening plates.

As shown in Fig. 4, the end sheet 11 of the car body may be treated in the manner already described in connection with the car side plate-girders to form a shedding surface 12 and an edge plate 13 suitably connected to or extending down to form a part of the end sill 14 of the car. In Fig. 4, 15 represents the end of the drop door illustrating the relative positions of the drop door and the shedding surface 12. 16 is the lower flange of cross-bearer 2 which is deflected, when the car is a dump car, to prevent lodging of lading thereon, upon dumping of the car. 17 is a door stop (Fig. 2) suitably secured in a pocket 18 pressed or formed in the surface of the cross-bearer 2. Door stop 17 comprises customarily a pair of oppositely extending members 19, having hooked ends, the shank of one of said members being longer than the other and offset

- to compensate for the flanges on cross-bearer 2, when cross-bearer 2 is of pressed metal, or has flanges on one side only, to bring the hooked ends of the members the proper distance beyond the edges of the doors, and the two members are riveted back to back. Either or both members 19 are provided with central reinforcing ribs or webs 20 pressed or otherwise formed.
- 10 As shown in Fig. 6, the side plate-girder 3 may be continued down beyond the upper surface of the cross-bearers 2, as shown also in connection with end plate-girder 9 in Fig. 4, then it is riveted or secured to the cross-bearer 2. Or, if desired, an angle bar 21 (Fig. 7) may be secured or riveted to the ends of cross-bearers 2 and to said edge plate 6.
- 20 Fig. 8 shows another manner of making door stops. Therein each member 19 is provided with rib 20 and extend an equal distance from their common shank. This form of stops is preferable for cross-bearers flanged on both sides.
- 25 The term "wall" used in the following claims is intended to cover a car side, car end, bulkhead, or other load-retaining structure.
- By the expression "edge plate" is meant a longitudinal member extending along the edge of a car wall, the function of which is that of stiffening the structure.
- Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:
1. In a car, the combination of cross bearers having horizontal upper edges, a side wall supported thereby and bent inwardly along its lower edge and secured to the outer ends of said cross bearers to space the same and form a shedding surface and drop doors between said cross bearers and in horizontal positions when closed.
 2. In a car, the combination of cross bearers having horizontal upper edges, side stakes rising from the outer ends of said cross bearers and secured thereto, a side wall secured to said stakes, bent in along its lower edge and secured to the outer ends of said cross bearers to space the same and form a shedding surface and drop doors between said cross bearers and horizontal when in closed positions.
 3. In a car, a wall having an intermediate portion inclined inwardly and its lower portion extending at an angle to said inclined portion to form a shedding surface and an edge strip.
 4. In a car, a wall having its lower portion formed substantially V-shape in cross-section.
 5. In a car, a wall having its lower portion inclined inwardly and bent outwardly to form a shedding incline and an edge plate.
 6. In a car, a plate-girder wall bent inwardly at a point below its upper edge and outwardly at the car floor level to form a shedding incline and an edge plate or strip and means for securing said wall to the under frame.
 7. In a car, a plate-girder wall with a vertical upper portion shaped inwardly and outwardly at its intermediate portion and downwardly at its lower portion to form a shedding incline, an edge strip or plate and a securing flange.
 8. In a car, a plate-girder wall having a vertical upper portion, an inclined intermediate portion and a horizontal lower portion, a brace beneath said inclined portion and a brace above said inclined portion.
 9. In a car, a plate-girder wall having a vertical upper portion, an inclined intermediate portion and a horizontal lower portion in combination with a brace beneath said inclined portion, a brace or stake on the outside of said vertical portion and a brace or stake on the inside of said vertical and inclined portions.
 10. In a car, a plate-girder wall having a vertical upper portion, an inclined intermediate portion and a horizontal lower portion, stakes exterior to the car, angle brace plates between the inclined and horizontal portions of said plate-girder wall, and inner stakes conforming to the inside shape of said wall.
 11. In a car, a wall having vertical and inclined portions, an inner stake conforming to the shape of said wall.
 12. In a car, a plate-girder wall having an inwardly inclined lower portion, cross-bearers and exterior stakes in combination with supplemental braces on opposite sides of said wall located over different cross-bearers.
 13. In a car, a plate-girder wall, exterior stakes and cross-bearers, an angle brace plate located over one of said cross-bearers on the exterior of said wall and a stake located over another of said cross-bearers on the inside of the car.
 14. In a car, a plate-girder wall, exterior stakes and cross-bearers, an angle brace plate located over one of said cross-bearers on the exterior of said wall and a stake located over another of said cross-bearers on the inside of the car, and a flanged connecting plate for connecting the car wall cross-bearer and inner stake.
 15. In a car, an end sheet having a vertical upper portion, an inclined intermediate portion and a horizontal and vertical portion, forming a shedding incline, an end edge plate and a portion of the car end sill.
 16. In a car, a cross-bearer having a flange inclined relatively to its web.
 17. In a car, a cross-bearer having a flange inclined or deflected downwardly relatively to its web.

18. In a dump-car having a drop door, cross-bearer adjacent said drop door and having a flange downwardly deflected relatively to its web.
- 5 19. In a dump-car having a drop door, a cross-bearer having a recess and a door step located in said recess.
- 10 20. In a dump-car having a drop door, a cross-bearer having a recess pressed in its surface and a door stop located in said recess.
- 15 21. In a dump-car having drop doors, a cross-bearer and a door stop carried by said cross-bearer and consisting of oppositely extending members.
- 20 22. In a dump-car having drop doors, a cross-bearer between said doors and having a recess in its surface and a door stop located in said recess and consisting of oppositely extending members.
- 25 23. In a dump-car having drop doors, a flanged cross-bearer located between the said drop doors and a door stop secured to said cross-bearer offset to compensate for the flange thereof and consisting of members extending in opposite directions.
- 30 24. In a dump-car having a drop door, a flanged cross-bearer adjacent said door and a door stop secured to said cross-bearer and offset to compensate for the flange of said cross-bearer.
- 35 25. In a dump-car having drop doors, a flanged cross-bearer located between said doors and having a recess or depression formed in its surface and a door stop located in said recess and offset to compensate for the flange of said cross-bearer.
- 40 26. In a dump-car having drop doors, a cross-bearer located between said doors, having a horizontal upper flange and a downwardly deflected lower flange in combination with a door stop carried by said cross-bearer and deflected to compensate for said flanges.
- 45 27. In a dump-car having drop doors, a door stop consisting of a securing portion and oppositely extending members.
- 50 28. In a dump-car having drop doors, a door stop consisting of oppositely extending members secured together back to back.
29. In a dump-car having drop doors, a door stop consisting of a plurality of members, one of said members being of greater length than the other to provide a securing shank for the members.
- 55 30. In a dump-car having drop doors, a door stop consisting of oppositely extending ribbed, hook-shaped members.
31. In a dump car having drop doors, a cross-bearer and a door stop mounted at an angle to the length of said cross-bearer and comprising a securing portion and oppositely extending stop members.
- 60 32. In a dump car having drop doors, a cross-bearer and a door stop mounted on said cross-bearer and comprising a securing portion and oppositely extending stop members, disposed at an angle to the length of said cross-bearer.
- 65 33. In a dump car having drop doors, a cross-bearer and a door stop mounted on said cross-bearer and comprising a securing portion and oppositely extending angular stop members disposed at an angle with relation to the length of said cross-bearer.
- 70 34. In a dump car having drop doors, a cross-bearer with a recess in its web disposed at an angle to the length of said cross-bearer and a door stop mounted in said recess.
- 75 35. In a dump car, an underframe beam having a lower flange deflected downwardly relatively to the beam web.
- 80 36. In a dump car, an underframe beam having a horizontal upper flange and a lower flange deflected downwardly relatively to the beam web.
- 85 37. In a dump car having drop doors, a cross-bearer and a door stop mounted on said cross-bearer projecting downwardly and inwardly toward the car center and comprising a securing portion and oppositely extending stop members.
- 90 38. In a dump car having a drop door, a cross-bearer and a door stop mounted on said cross-bearer projecting downwardly and inwardly toward the center of the car beneath said cross-bearer.
- 95 The foregoing specification signed at McKees Rocks, Allegheny county, Pennsylvania, this twenty-eighth day of January, 1908.
- 100 JOHN F. STREIB.
- Witnesses:
T. J. JONES,
G. C. LAMBE.